

**REMARKS**

Claims 1-21 were previously pending in the application. By the Amendment, Claims 1, 2, 19 and 20 are currently amended, Claim 21 is canceled without prejudice, and Claims 2-18 remain unchanged. Applicants gratefully acknowledge the Examiner's indication that Claims 2-3, 6-7, 10-11 and 14-15 include allowable subject matter and would be allowable if rewritten in independent form.

Allowable original Claim 2 has been rewritten in independent form to include all the limitations of the base claim. Therefore, newly-independent Claim 2 is allowable. Dependent Claims 3, 6-7, 10-11 and 14-15 depend from independent Claim 2 and are allowable for the same and other reasons.

The Examiner objected to the drawings for failing to show every feature of the invention. Applicants have submitted additional Fig. 6 illustrating the reinforcing rib extending from the hub and not being in contact with the wall in a non-loaded state, as set forth in Claims 2-3. This construction was described in the original disclosure, including Claims 2-3. No new matter has been added. A copy of additional Fig. 6 is enclosed in Appendix A. In addition, the "BRIEF DESCRIPTION OF THE DRAWINGS" section of the specification has been amended to include Fig. 6. Applicants respectfully request withdrawal of the objection to the drawings.

The Examiner objected to two portions of the disclosure due to informalities. The Applicants have amended the specification to correct the informalities identified by the Examiner and withdrawal of the objection is respectfully requested. As noted above, the Applicants have also amended to specification to include a description of additional Fig. 6. No new matter has been added.

The remaining claims stand rejected under the cited prior art of record. Specifically, Claims 20 and 21 were rejected under 35 USC §102(b) as being anticipated by Knipp (US 3,870,372). Claims 1, 4-5, 8-9, 12-13 and 16-19 were rejected under 35 USC §103(a) as being unpatentable over Knipp in view of Kent (US 4,934,017).

Independent Claim 1 recites a vacuum cleaner, comprising: a housing; and at least one running roller operatively connected to said housing and having: a hub; a running ring; a wall connecting said running ring and said hub, said wall having: two side surfaces; and a curved cross-section between said running ring and said hub; and at least

one reinforcing rib extending from one of said two side surfaces of said wall and being disposed between the wall and at least one of the hub and the running ring, the at least one reinforcing rib having a free end being disposed adjacent and spaced apart from at least one of the hub and the running ring and being in contact with neither said hub nor said running ring in a non-loaded state of said running roller.

Knipp discloses a plastic wheel for use with a rubber tread in motor vehicles driven at high speeds. The wheel (1) includes a base (3) and a rim (10) with an intermediate webbing section (7) and spaced webs (8, 9) extending between the base (3) and rim (10). Radially extending circumferentially spaced ribs (12, 12a) reinforce the intermediate section (7) and webs (8, 9). As shown in Fig. 1, the ribs (12) are positioned within the internal curves of the intermediate section (7) and webs (8, 9).

First, Knipp does not disclose a vacuum cleaner. Knipp discloses a wheel for high speed motor vehicles and does not remotely relate to vacuum cleaners. Knipp is non-analogous art for the present invention and one of ordinary skill in the art in the field of vacuum cleaners would not consider wheels from high speed motor vehicles.

Second, Knipp does not disclose, among other things, “at least one reinforcing rib extending from one of said two side surfaces of said wall and being disposed between the wall and at least one of the hub and the running ring, the at least one reinforcing rib having a free end being disposed adjacent and spaced apart from at least one of the hub and the running ring and being in contact with neither said hub nor said running ring in a non-loaded state of said running roller,” as recited in Claim 1. Rather, Knipp discloses ribs (12) positioned only within the webs and completely engaging and contacting the web along the edges of the ribs.

Knipp does not disclose a reinforcing rib disposed being disposed between the wall and at least one of the hub and the running ring. In Knipp, the ribs (12) are positioned within the webs. Also, Knipp does not disclose the at least one reinforcing rib having a free end being disposed adjacent and spaced apart from at least one of the hub and the running ring. In Knipp, the ribs (12) engage the webs along the entire internal curve of the webs. Therefore, Knipp does not disclose all the claim limitations of Claim 1.

Kent does not cure the deficiencies of Knipp. Kent simply discloses a vacuum cleaner having rollers (46, 49). The Examiner has not established a *prima facie* case of obviousness with respect to the claimed invention.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claims limitations.

The Examiner has not identified any suggestion or motivation within the prior art to combine Knipp and Kent. The mere fact that references *can* be combined or modified does not render the resultant combination obvious unless the prior art also *suggests the desirability* of the combination. The fact that a wheel could be substituted on a vacuum cleaner does not necessarily suggest replacing the rollers (46, 49) on the vacuum cleaner of Kent with the high speed motor vehicle wheels of Knipp.

The level of skill in the art cannot be relied upon to provide the suggestion to combine references. Simply stating that modifications of the prior art to meet the claimed invention would have been obvious is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. The Examiner contends that it would have been obvious to provide a plurality of wheels as shown by Knipp on a vacuum cleaner, in order to provide a resilient cushioning means for the vacuum. The Examiner also states that the resilient nature of the roller shown in Knipp would absorb shocks and vibration as the vacuum traverses a surface, thus reducing undue strain on the vacuum cleaner housing.

As described above, Knipp relates to a wheel for a high speed motor vehicle. A vacuum cleaner, particularly the vacuum cleaner of Kent is substantially smaller than a high speed motor vehicle. Similarly, a high speed motor vehicle is exposed to loads and forces that are extremely higher than any loads and forces experienced by a vacuum

cleaner roller. Knipp provides various details on the specific material strengths and properties necessary to withstand the forces and loads experienced by the wheel for use with a high speed motor vehicle. Knipp also suggests that metal and fiber inlay reinforcements are preferred. Nothing in the prior art suggests that the wheel of Knipp designed for use with a high speed motor vehicle and experiencing relatively high loads would be effective at absorbing shocks and vibrations of a vacuum cleaner experiencing comparatively extremely small loads. The small forces exerted on a vacuum cleaner roller are likely so small that they would not affect the high speed motor vehicle wheel of Knipp and the forces would simply be transferred to the vacuum cleaner.

Furthermore, as described above, the combination of Knipp and Kent do not teach or suggest all the claims limitations as recited in Claim 1. Knipp does not disclose, among other things, “at least one reinforcing rib extending from one of said two side surfaces of said wall and being disposed between the wall and at least one of the hub and the running ring, the at least one reinforcing rib having a free end being disposed adjacent and spaced apart from at least one of the hub and the running ring and being in contact with neither said hub nor said running ring in a non-loaded state of said running roller,” as recited in Claim 1. Therefore, the Examiner has not established a *prima facie* case of obviousness with respect to the claimed invention.

For these and other reasons, Knipp and Kent, either alone or in combination, do not teach or suggest the subject defined by independent Claim 1. Therefore, Claim 1 is allowable. Claims 4-5, 8-9, 12-13 and 16-18 depend from Claim 1 and are allowable for the same reasons and also because they recite additional patentable subject matter.

Independent Claim 19 recites in a vacuum cleaner, a roller assembly having: at least one running roller having: a hub; a running ring; a wall connecting said running ring and said hub, said wall having: two side surfaces; and a curved cross-section between said running ring and said hub; and at least one reinforcing rib extending from one of said two side surfaces of said wall and being disposed between the wall and at least one of the hub and the running ring, the at least one reinforcing rib having a free end being disposed adjacent and spaced apart from at least one of the hub and the running ring and being in contact with neither said hub nor said running ring in a non-loaded state of said running roller.

Claim 19 recites many of the same claim limitations of Claim 1, including “at least one reinforcing rib extending from one of said two side surfaces of said wall and being disposed between the wall and at least one of the hub and the running ring, the at least one reinforcing rib having a free end being disposed adjacent and spaced apart from at least one of the hub and the running ring and being in contact with neither said hub nor said running ring in a non-loaded state of said running roller.” Therefore, the arguments above in relation to Claim 1 are also applicable to Claim 19.

For these and other reasons, Knipp and Kent, either alone or in combination, do not teach or suggest the subject defined by independent Claim 19. Therefore, Claim 19 is allowable.

Independent Claim 20 recites a roller, comprising: a roller body having: a hub; a running ring; a wall connecting said running ring and said hub, said wall having: two side surfaces; and a curved cross-section between said running ring and said hub; and at least one reinforcing rib extending from one of said two side surfaces of said wall and being disposed between the wall and at least one of the hub and the running ring, the at least one reinforcing rib having a free end being disposed adjacent and spaced apart from at least one of the hub and the running ring and being in contact with neither said hub nor said running ring in a non-loaded state of said running roller.

As described above in relation to Claim 1, Knipp does not disclose, among other things, “at least one reinforcing rib extending from one of said two side surfaces of said wall and being disposed between the wall and at least one of the hub and the running ring, the at least one reinforcing rib having a free end being disposed adjacent and spaced apart from at least one of the hub and the running ring and being in contact with neither said hub nor said running ring in a non-loaded state of said running roller,” as recited in Claim 20. This same claim limitation is present in both Claim 1 and Claim 20. Therefore, the arguments above in relation to Claim 1 are also applicable to Claim 20.

For these and other reasons, Knipp does not disclose the subject matter defined by independent Claim 20. Therefore, Claim 20 is allowable.

If an extension of time for this paper is required, petition for extension is herewith made.

**CONCLUSION**

In view of the above, entry of the present Amendment and allowance of Claims 1-20 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. Please note that Applicants have changed representation and are now represented by new counsel. The formal Revocation of Power of Attorney / New Power of Attorney and Change of Correspondence Address documents will be forthcoming.

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Name of Attorney Signing under 37 CFR 1.34

Respectfully submitted,



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June 24, 2005

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**APPENDIX A**